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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,599	01/16/2006	Henghu Sun	NTD/9004	4186
23409 7590 02/24/2009 MICHAEL BEST & FRIEDRICH LLP 100 E WISCONSIN AVENUE Suite 3300 MILWAUKEE, WI 53202				
EXAMINER				
MARCO'ANTONI, PAUL D				
ART UNIT		PAPER NUMBER		
1793				
MAIL DATE		DELIVERY MODE		
02/24/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/540,599

**Applicant(s)**

SUN ET AL.

**Examiner**

Paul Marcantoni

**Art Unit**

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 38-68 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 38-68 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date 2/22/06
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

35 USC 103:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 38-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu et al. '345 B1, Fondriest '974, JP 04083744 (Fuchigami et al. abstract), or Novak (CA 2324486) alone or in view of Rae et al. '197.

All of the above cited primary references teach making a cement clinker that nearly matches that of a Portland cement clinker by adding lime (CaO) or limestone to the mixture to make it more hydraulic. The addition of gypsum or calcium sulfate to Portland cement clinker to make Portland cement is old and conventional in the art. The applicants appear to only create a hydraulic cement that parallels that of Portland cement by adding CaO to slag and/or fly ash (also known as coal ash) to make it more hydraulic (see claims and abstract for JP reference for each instant reference cited above). Note that Zhu appears to be the closest prior art yet Novak also teaches the specific composition of the binary wet cement (see p.3 which cites a Canadian patent listed that has the same composition as applicants' binary wet cement). He may teach it as dry yet it would have been an obvious design choice to store specific components of cement prior to application in either wet or dry form.

Rae et al. '197 (hereafter Rae) teach that it is old in the art to make a cement slurry storable by a wet method by simply adding water to the cement and also adding a retarder (applicants call it a "regulating" agent but it is the same as a retarder-see claims 1-22 in cols.18-22). It is the examiner's position that the use of a wet storage or dry storage would have been an obvious design choice for one of ordinary skill in the art because both are already known and conventional in the art. Finally, the examiner has cited other references for applicants' review which could have also been applied in the grounds of rejection but were redundant to the teachings of the references in the instant rejection (See PTO 892).

35 USC 112 Second Paragraph:

Claims 38-68 are rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention.

Removal of the parentheses around male body and female body is advised for all claims it is used. It is improper to use quotation marks in the claims.

The term "selected from" in claim 45 should be amended to --selected from the group consisting of---.

The term slage should be slag in claim 45.

The term "regulating agent" is vague throughout the claims. Do applicants mean a retarder and is a retarder the same as their claimed regulating agent?

Deletion of quotation marks around "adding calcium in the fuel" in claim 47 is advised. Delete from other claims used this way as well.

The term "given" amount of quick lime is indefinite in claims 47 and 48 and all claims it is used. It is the same as "predetermined". Consider simply stating --adding quicklime---.

The terms "a small amount of mineralizing agent" is vague and indefinite because applicants do not particularly point out and distinctly claim "small". How much is a small amount and what is the specific amount or range of amounts in claim 47? Delete small from this claim and other claims used such as claim 48.

The term "high" temperature is indefinite. What is the range of temperature or specific temperature that is deemed high? (see claim 47 and all claims it is used).

Deletion of parentheses from claim in last third and fourth lines. Consider just writing this limitation out as is without the parentheses.

The examiner interprets "rapid cooling" as the same as quenching.

The term femal should be female in claim 49, line 2.

The terms "selected from" should be amended to --selected from the ground consisting of--in claim 51,52,53,54, 66 and any other claim it is used.

Claim 52, delete "and their mixtures" and insert therefor --and mixtures thereof--.

The terms "strong alkali" and "strong alkali salt" are indefinite in claims 53 and 54 and any other claim it is used. What defines a strong alkali or strong alkali salt. Please define a specific numerical amount or range of values.

The term Fluorgypsum should be fluorogypsum in claim 53.

The terms "and their mixtures" (last line of claim 66) should be amended to --and mixtures thereof---.

Is the sand from the mountain, river, sea, and gobi all approximately the same composition? (as in silica sand). It is assumed these are all silica sands that approximate the same composition as set forth in claim 66.

The term "mineral classified sand" is vague. What does this mean specifically? Are mineral tailings the same as mine tailings? (claim 66).

The term "type" is indefinite in claim 67. Delete type in all instances used in this claim. Also, delete "or their mixtures" and insert --or mixtures thereof--.

There is no period in claim 68 and it appears the claim is not complete.  
Underground engine what?

Objection to the Specification:

The term "levigating" used twice in paragraph [0011] is indefinite. What is the meaning of this term? Do applicants mean simply mixing? Clarification and possible correction is respectfully requested.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Marcantoni whose telephone number is 571-272-1373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Paul Marcantoni/  
Primary Examiner, Art Unit 1793